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ABSTRACT

This report of the development of a drug-educational product which appears to have potential impact, is based upon published materials, documents in the files of the developing agency, and interviews with staff who were involved in the development of the product. The long-range goal of the drug program is to encourage young people to develop mature, sensible and knowledgeable attitudes regarding people who use and abuse both legal and illegal drugs. During the program facts are presented, and discussion about drugs and drug use encouraged. Children from kindergarten through grade 9 were exposed to the program. The Multi-sensory Learning Package, including flash cards, tapes, booklets, letters, filmstrip, slides, coloring books and Teachers' Manual, is described, as are the development of ideas for the project and of the project itself, funding, and the key personnel. Factors relating to the diffusion and adoption of the product are discussed, and anticipated actions described. A detailed appendix is included. (KS)

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PRODUCT DEVELOPMENT REPORT NO. 6

THE CREATIVE LEARNING GROUP DRUG EDUCATION PROGRAM

DEVELOPED BY THE CREATIVE LEARNING GROUP

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EDUCATION & WELFARE
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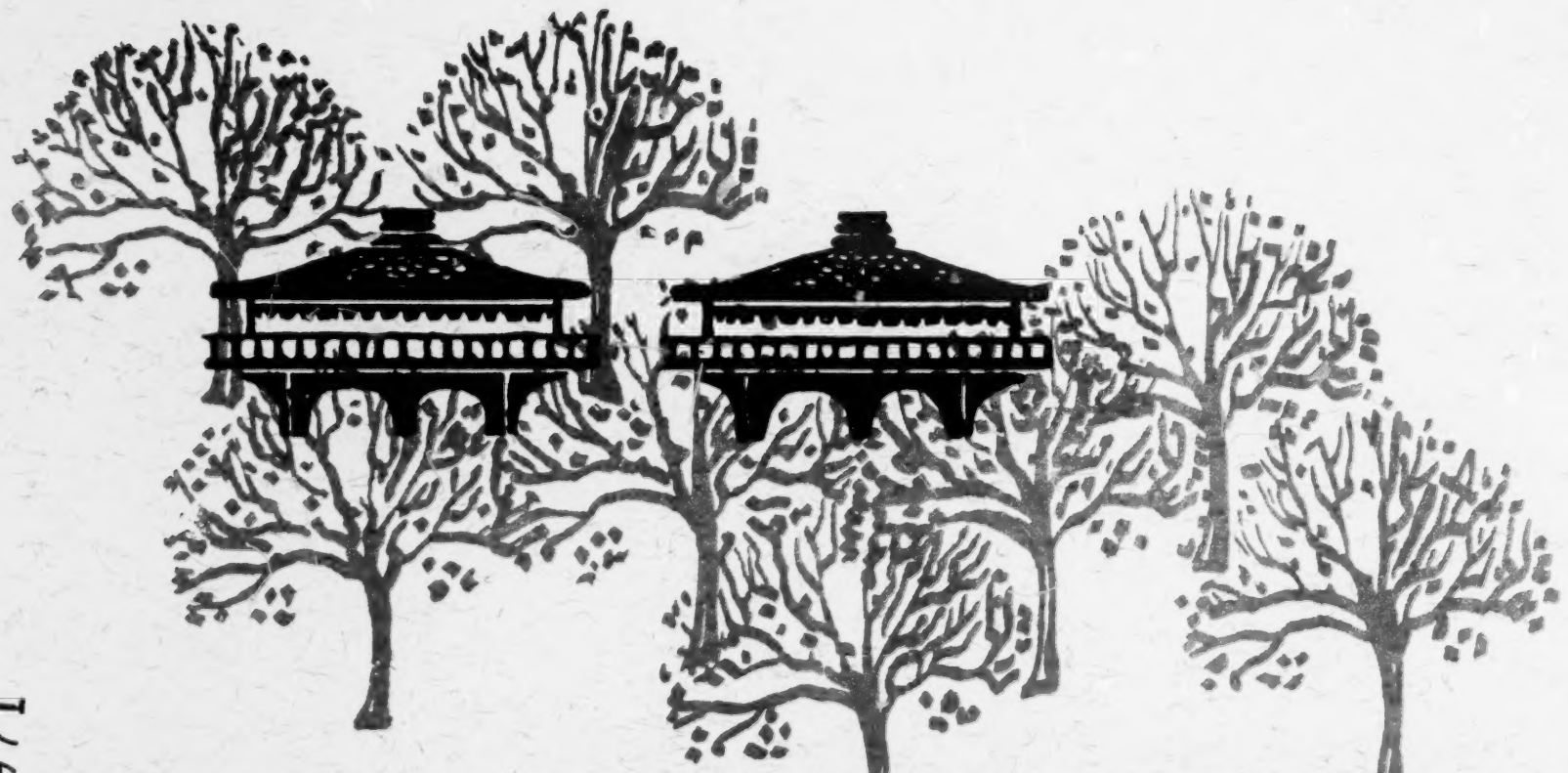

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Lorna J. Thompson
Daniel W. Kratochvil

American Institutes for Research
in the Behavioral Sciences

Palo Alto, California

December, 1971

The research reported herein was performed pursuant to a contract with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Office of Program Planning and Evaluation

PREFACE

This product development report is one of 21 such reports, each dealing with the developmental history of a recent educational product. A list of the 21 products, and the agencies responsible for their development, is contained in Appendix H to this report. The study, of which this report is a component, was supported by U.S. Office of Education Contract No. OEC-0-70-4892, entitled "The Evaluation of the Impact of Educational Research and Development Products." The overall project was designed to examine the process of development of "successful educational products."

This report represents a relatively unique attempt to document what occurred in the development of a recent educational product that appears to have potential impact. The report is based upon published materials, documents in the files of the developing agency, and interviews with staff who were involved in the development of the product. A draft of each study was reviewed by the developer's staff. Generally, their suggestions for revisions were incorporated into the text; however, complete responsibility for interpretations concerning any facet of development, evaluation, and diffusion rests with the authors of this report.

Although awareness of the full impact of the study requires reading both the individual product development reports and the separate final report, each study may be read individually. For a quick overview of essential events in the product history, the reader is referred to those sections of the report containing the flow chart and the critical decision record.

The final report contains: a complete discussion of the procedures and the selection criteria used to identify exemplary educational products; generalizations drawn from the 21 product development case studies; a comparison of these generalizations with hypotheses currently existing in the literature regarding the processes of innovation and change; and the identification of some proposed data sources through which the U.S. Office of Education could monitor the impact of developing products. The final report also includes a detailed outline of the search procedures and the information sought for each case report.

Permanent project staff consisted of Calvin E. Wright, Principal Investigator; Jack J. Crawford, Project Director; Daniel W. Kratochvil, Research Scientist; and Carolyn A. Morrow, Administrative Assistant. In addition, other staff who assisted in the preparation of individual product reports are identified on the appropriate title pages. The Project Monitor was Dr. Alice Y. Scates of the USOE Office of Program Planning and Evaluation.

Sincere gratitude is extended to those overburdened staff members of the 21 product development studies who courteously and freely gave their time so that we might present a detailed and relatively accurate picture of the events in the development of some exemplary educational research and development products. If we have chronicled a just and moderately complete account of the birth of these products and the hard work that spawned them, credit lies with those staff members of each product development team who ransacked memory and files to recreate history.

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PRODUCT DESCRIPTION

Product Characteristics

Name

Creative Learning Group Drug Education Program.

Developer

The Creative Learning Group, A division of Media Engineering Corporation, Cambridge, Massachusetts.

Distributor

The developers, The Creative Learning Group, are also distributing the product.

Focus

The focus of the creative drug program is on training students to develop mature, sensible, and knowledgeable attitudes about people who use drugs, about people who abuse drugs, and about the role of drugs, both legal and illegal, in their own lives.

Grade Level

Kindergarten through Grade 9.

Target Population

The target population consists of all students in elementary and junior high school. The nature of the drug program and its goals are such that they are not confined to any particular geographic, demographic, or social-ethnic sub-population.

Rationale for Product

Long Range Goals of Product

The long range goal of the drug program is to encourage children and young people to develop mature, sensible, and knowledgeable attitudes about people who use drugs, about people who abuse drugs, and about the role of drugs, both legal and illegal, in their own lives. To accomplish this end, the program presents drug facts--facts about what drugs are, how they are used, why some are illegal, what physiological and psychological effects they have, and why different kinds of people use them. To the same end, the program encourages students to discuss drugs and drug use with each other, with their parents and teachers, and with other members of the community.

Objectives of Product

The objectives of the product are to relate the current awareness and anxiety about drugs to the real world of younger children and to provide youngsters of junior high school age with accurate and up-to-date facts about drugs they are likely to come in contact with or be curious about. At the time of this program's inception, there were few, if any, comprehensive drug programs available. The developers were impressed by the need in our society for all young people to know the facts about drugs, and the need for the facts to be presented honestly and in terms that could be understood and respected by teachers who are unfamiliar with and often frightened by the whole subject of drugs and by students who have had personal experience with drugs.

The Creative Learning Group's printed brochure (1971) stresses that:

> The purpose of the program is to teach established facts, not prejudices. The course, therefore, makes every effort to describe the helpful and legitimate use of drugs as well as the abuses to which some are put. With a sound understanding of what each of the drugs under study really does, both in medical and psychological terms, the student is well equipped to face the question of why certain people become drug abusers . . . Too many students have already turned a deaf ear to dramatic condemnations voiced more out of fear than a desire to understand. Confronted with differing opinions, they often turn to other "sources" for their information, sources who often appear to be more credible than the agitated parent or worried administrator.

Philosophy and Theories Supporting Product

The philosophy and theory behind most types of drug education are that some drugs are harmful to people as individuals and to society as a whole. Scare tactics, the basis of most drug education in earlier years, seemed founded on the idea that blanket statements about how destructive all illegal drugs were would frighten young people out of trying them. Such tactics have not yielded substantial success. The occurrence of drug abuse is growing rather than diminishing. The reasoning behind the Creative Learning Group Drug Education Program is simply this: given specific facts about drugs instead of blanket condemnations, and given the personal experiences and opinions of young people who have tried drugs, most young people will decide to stay away from harmful drugs.

Description of Materials

Organization, Content, and Format of Materials

The Creative Learning Group Drug Education Program is actually two programs: a kindergarten through grade 6 program and a junior high school program, grades 7-9. The program for kindergarten through sixth grade is comprised of the following materials: a series of seven student booklets, with one booklet for each grade level; a complete Teacher's Manual for the entire series; a Multi-Sensory Learning Package made up of 20 flash cards of faces expressing various emotions; four tape cassettes of interviews with young people, a father, and a police officer discussing their personal drug experiences and problems; a series of ditto masters for a set of unfinished stories the children may complete, discuss, and try out; "Dear Abby" type letters regarding drug problems, a cassette and filmstrip set that allows children to respond personally; a set of simulated drug ads to help students develop critical thinking skills about drugs; and a smoking machine that demonstrates how cigarettes produce residues that are left in the lungs. The kindergarten booklet is a combination story-coloring book that the children may take home. The other booklets, which are written in a story framework with many photographs and which are designed to be reusable, are Drugs and You I, Drugs in the Home I, Drugs in the Community I, Drugs and You II, Drugs in the Home II, and Drugs in the Community II.

The junior high school drug education program includes a series of ten programmed and illustrated student booklets; they are What is a Drug?, Legal Stimulants, Prescription Stimulants, Hallucinogens, Marijuana, Alcohol, Depressants, Narcotics, Heroin, and Drug Dependency. Most of these booklets contain a section of programmed text that simultaneously teaches and reviews facts, the script of an interview with a young person who uses or has used the drugs covered, questions for thought or discussion, a summary of the information presented, and a list of suggested projects that will allow students to accumulate first-hand information about drugs. The Teacher's Audio-Visual Instruction Package (TAV) that accompanies these student booklets contains a complete Teacher's Manual; six tape cassettes of interviews with ex-addicts, young drug dealers, student drug users, policemen, lawyers, and parents; 25 color slides showing the various drugs and equipment associated with preparing and using them; 12 reprints from Scientific American (see Appendix A) to be used as additional source material for the teacher; and the Time-Life book Drugs and the Young.

Cost of Materials to User

The complete set of materials for 30 students at any one of the seven levels of the kindergarten through grade 6 program is available for $125. The set of materials for 30 students in each of grades 1 through 6 is $319. The complete set of materials for 30 junior high students is $219. The set for 150 students sells for $479. Both sets include one teacher's audio-visual package.

Procedures for Using Product

Learner Activities

Kindergarten through sixth grade pupil activities focus on group discussion of the books and the audio-visual materials. Information about legal drugs found commonly in the home is used as an introduction to the subject. Emotions and decision-making are discussed as important areas related to drug use. A typical activity would be for the teacher to show one of the flash card faces and ask the children how that person was feeling and why he might be feeling that way. This activity can be used successfully with kindergartners and sixth graders; the level of sophistication of the children's discussion would differ considerably. The developers recommend that each student booklet be used as a unit and covered in a period of several weeks. It is possible, however, to spread the drug study over the entire school year.

The junior high school program also emphasizes group discussion and projects as the course focus. The programmed nature of the booklets (the students can be required to write in the answers) insures that the text will be read and provides instant review and reinforcement. The reading of one booklet requires only about one hour's time and this activity is recommended as homework. Class periods should be reserved for group discussion of the booklets and the tapes and for work on projects. One project, for example, calls for a doctor who has had experience with lung diseases to come and talk to the class about the effects of smoking tobacco. The required class time is approximately 15 to 30 class sessions, which can be taken as a unit or spread over the course of the year or several years.

Both programs attempt to hold students' interest by relating directly to their own probable range of experience and by being indisputably authentic. The slides are all of real drugs; the developers maintain that students know when "phony" drugs and equipment are passed off as the real thing. Young

people are not apt to believe that what you tell them is true if what you show them is obviously fake. The interviews, too, are authentic. Some editing was necessary, but the staff made every attempt to reproduce the real attitudes and experiences of those people interviewed.

Teacher Activities

The teacher's manual for the Kindergarten through grade 6 program offers a thorough guide to using all of the materials and recommends various projects in which the pupils can become involved. The teacher's manual for the junior high program also provides complete guidance for a teacher unsure of himself in the drug field. The manual is in loose-leaf form so that new material can be added as new information is available.

Despite the thoroughness of the teacher's manuals, teacher training is highly recommended. Teaching methods for these courses are new for most teachers. There are lots of questions, but no clearly right or wrong answers where attitudes about drugs are concerned. Many teachers are accustomed to a more controlled type of discussion than is recommended. Letting the students carry the discussion on a topic as nebulous as drug use can frighten a somewhat insecure teacher. Many instructors might feel too, and correctly so, that their students know more about the subject than they do. Teacher training can, therefore, help teachers feel more secure in the subject and impress upon them the importance of allowing the students a rather free rein in expressing their opinions and attitudes.

If a few schools in an area wish to have the Creative Learning Group provide teacher training, a consultant will be sent to hold lectures and workshops. There is no current provision, however, for teacher training by a staff member for individual schools. When no teacher training is available, out-of-class preparation is absolutely vital to ensure that teachers can be at least as well-versed in drug facts as their students.

Provisions for Parent/Community Involvement

At the kindergarten and junior high school levels, parents can easily become aware of what their children are learning, since the books are meant to be taken home. The junior high booklets are not easily ignored either; in bold letters across their covers are printed their fascinating titles, Marijuana, Heroin, Narcotics. Several recommended student projects suggest that parents and friends be interviewed about their use of common drugs.

The community, too, can play an important role. Many of the projects suggest that members of the community be visited or come to the class to discuss legal, social, and medical aspects of drug use. If used to their full potential, the drug programs can involve students, teachers, parents, and the community at large to a considerable degree.

Special Physical Facilities or Equipment

No special facilities or equipment are required for utilizing the product.

Recommended Assessment Techniques for User

The teacher's manuals stress that attitudinal guidance rather than pharmacological knowledge is the most important goal of the programs. To this end, objective testing is not highly recommended, but some sample objective questions are provided. The developers do recommend that subjective essay tests be given if teachers require that the students be graded. Suggested test questions for this type of test are also provided.

ORIGINS

Key Personnel

The goddess Athena sprang fully grown and dressed at birth from the forehead of her father, Zeus. According to Richard Hawkins, Deputy Director of the Creative Learning Group, the development of the drug education program was a latter day Athena, springing fullblown from the head of Lawrence McKinney, President of Media Engineering Corporation and Director of the Creative Learning Group. Because of the various comings and goings of people connected with this drug program, a summary of the people discussed in this report and their major contributions is contained in Appendix B.

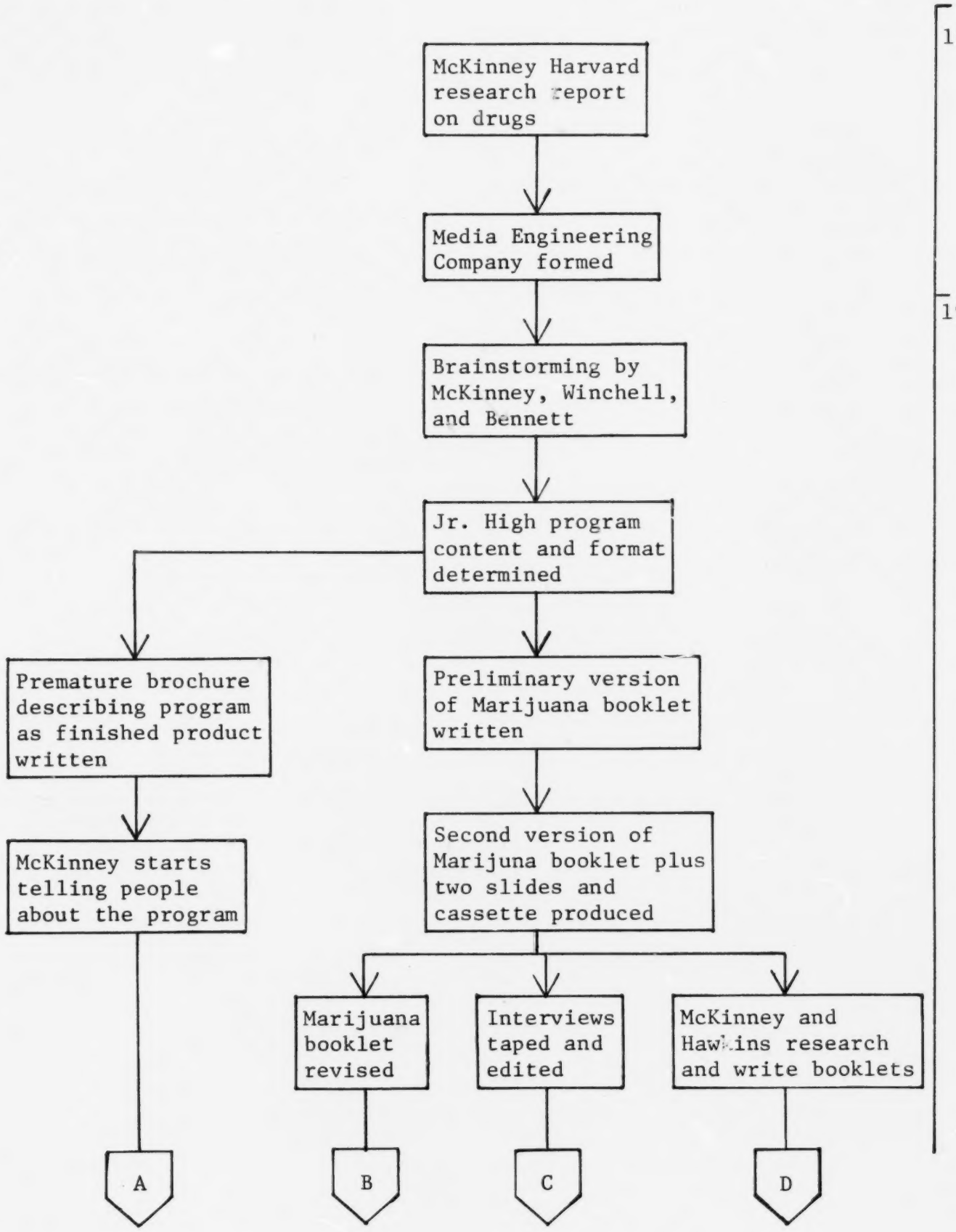
Sources and Evolution of Ideas for Product*

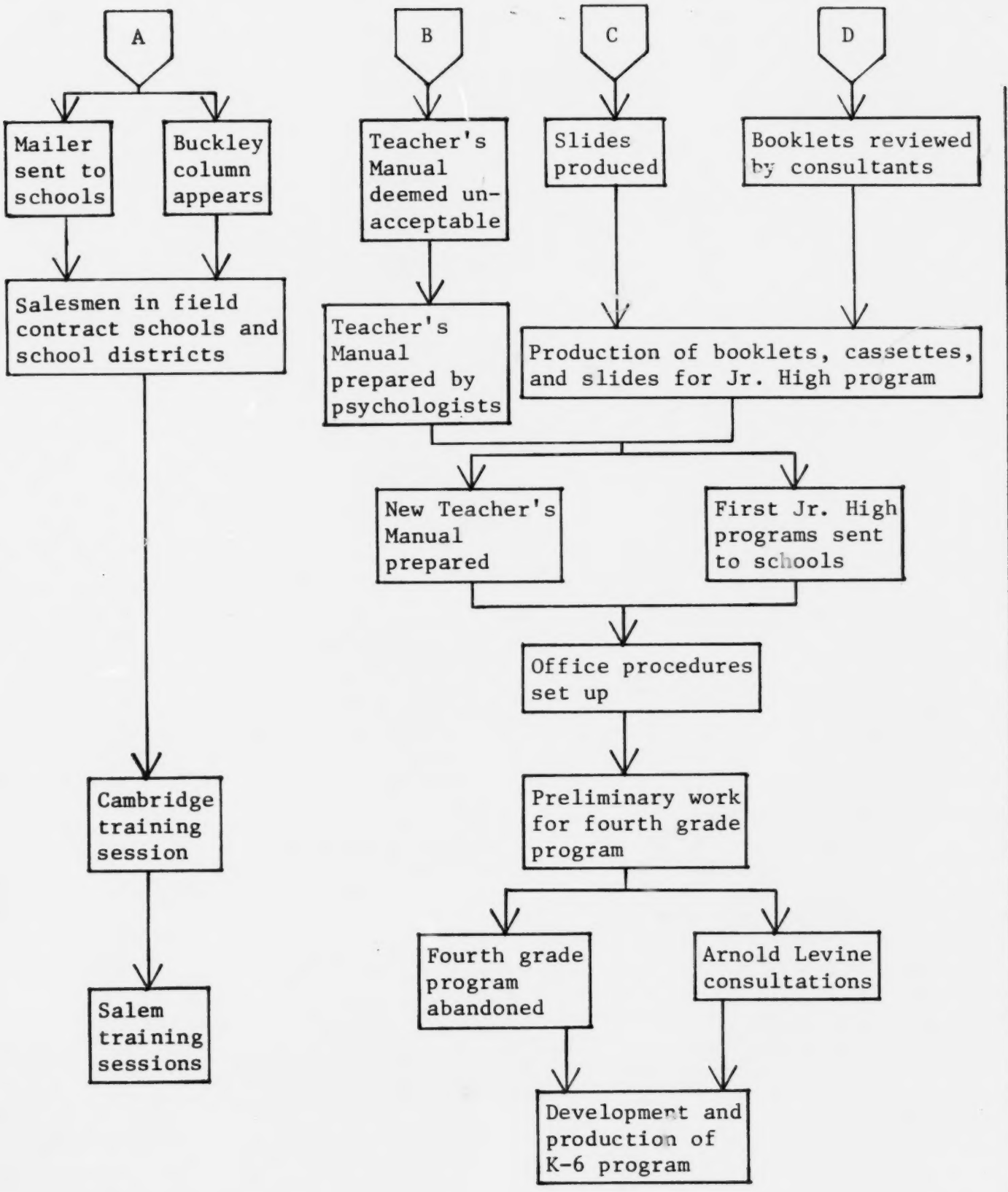
Mr. McKinney is a young man who claims he has been interested in communications, as well as in an endless number of other subjects, for as long as he can remember. As a Harvard undergraduate, he took a potpourri of courses. After graduating with a major in English, he delved into such pursuits as forming a surfboard company, selling surfboard franchises, and managing rock and roll bands. As a course assistant and graduate student at

*See Major Event Flow Chart beginning on next page

Figure 1

Major Event Flow Chart


1969
1970
McKinney Harvard research report on drugs
Media Engineering Company formed
Brainstorming by McKinney, Winchell, and Bennett
Jr. High program content and format determined
Premature brochure describing program as finished product written
Preliminary version of Marijuana booklet written
McKinney starts telling people about the program
Second version of Marijuna booklet plus two slides and cassette produced
Marijuana booklet revised
Interviews taped and edited
McKinney and Hawkins research and write booklets
A
B
C
D


A
B
C
D
1970
Mailer sent to schools
Buckley column appears
Teacher's Manual deemed un-acceptable
Slides produced
Booklets reviewed by consultants
Salesmen in field contract schools and school districts
Teacher's Manual prepared by psychologists
Production of booklets, cassettes, and slides for Jr. High program
New Teacher's Manual prepared
First Jr. High programs sent to schools
Office procedures set up
Preliminary work for fourth grade program
Cambridge training session
Salem training sessions
Fourth grade program abandoned
Arnold Levine consultations
1971
Development and production of K-6 program

the University of North Carolina, he had the opportunity to teach and write and found that he liked teaching better. He delighted in "itching" people's minds, stimulating them with unorthodox questions, and encouraging them to expand their minds. Faculty opposition to his teaching methods and style led to his departure from the university. He then volunteered for the Army but was rejected because his attitudes were "unacceptable." He told them, "I am going to be a good soldier, not shoot anyone, and take over the black market in Saigon." Mr. McKinney then enrolled in the Harvard Business School to get the "most powerful degree possible," a Master of Business Administration. While enrolled there, he and a friend collaborated on a research report on drugs, since Mr. McKinney felt that he was well endowed with knowledge on the subject. Immediately after he graduated, he was offered a job as a research assistant at the Harvard Business School by Professor Renato Tagiuri. This application was endorsed by three faculty committees, but was rejected by the administration dean on the grounds that he was "too controversial" a person to be employed (according to McKinney, that means wears bluejeans to class). In the spring of 1969, Mr. McKinney set himself up as a "creative consulting firm" called Media Engineering (ME for short, since he was the only member of the firm). As a consultant he hoped to make use of his experience in films, recording, and printing.

Mr. Raymond Godfrey, with whom Mr. McKinney had collaborated on the drug research report at Harvard, was now with Time-Life Books and asked Mr. McKinney to help edit their book, Drugs and the Young. Finding the original text full of inaccuracies, McKinney rewrote large parts of it; in doing so, McKinney was noted as the verbatim ghost by Time-Life. Then with money from previous ventures, Mr. McKinney rented a small office for his company. At this point, in March of 1970, Vaughn Winchell, an ex-teacher who had seen McKinney's display ad in the phone book, joined Media Engineering for a $150/week salary. They first envisioned the company as a clearinghouse for other developers' drug programs, but Winchell proposed that the two of them do a drug education program. David Bennett, a one-time writer of programmed texts, joined them. Their first joint venture was to offer to do a whole junior or senior high school drug program for Time-Life Books. That company's response was slow in coming, but McKinney, Winchell, and Bennett set to work "brainstorming" about what drugs to cover and what format to use.

Mr. McKinney's motives in wanting to produce a drug program lay in the following personal beliefs: (1) most of today's "drug crisis" is misinformation or lack of information, (2) the public is afraid of the "new" drugs because of their lack of familiarity with them, (3) he had been a teacher and wanted to teach to a larger audience, (4) he deemed himself an excellent producer of audiovisual materials, (5) he thought audiovisual materials were better teaching tools than texts, and (6) drug education for young people up to that time was entirely unacceptable.

Always in Mr. McKinney's mind was the idea that he would present the subject "honestly, informatively, and entertainingly," and yet not "coddle the teacher who is a teacher because he cannot face the outside world." He and his colleagues chose not to rely more on audiovisual materials than they might have since, in their opinion, such materials are still viewed as a "side-show" in American education rather than a basic means of teaching core subjects. The TAV was envisioned as merely a tool for good teachers and as a step-by-step lesson plan for teachers less inspired or frightened by the subject. The entire program was conceived to allow students to get the facts no matter how poor or reluctant the teacher.

The junior high level was selected as the best initial target group on the grounds that (1) no drug program was available for that level and (2) according to Mr. McKinney, the best time to teach a subject is when the child is inexperienced with it. By high school, many students have already formed their attitudes about drugs, and generally formed them on misinformation.

By the time a Time-Life representative agreed to come from New York to see what the Media Engineering Company had and discuss a possible contract, McKinney and his colleagues, Winchell and Bennett, had fairly definite ideas about what their drug program would be. According to McKinney's business philosophy that "you've got to promise people stuff you haven't got and by the time they want it, you'll have it," he had told Time-Life that a drug program was in production. With a possible buyer on the way and their ideas fairly well formulated, they rushed into immediate production.

McKinney wrote the preliminary version of the Marijuana booklet, typed it, pasted in pictures from Scientific American magazine, shrunk it so it wouldn't look typed, and xeroxed it; the Marijuana booklet was ready. Simultaneously, a brochure that described the whole program was produced. Even at this early state, the anticipated program was clearly envisioned.

The final product turned out almost identical in form and content to the program that the premature brochure described. A Time-Life agreement never materialized because of the lack of interest, but the Media Engineering Drug Education Program was on its way.

One evening over some very good wine, the company members and friends concluded that "Media Engineering" didn't sould like a likely group to be producing educational materials. Thus, the trademark name Creative Learning group came into being, and in April 1970 the company was incorporated. The two names are used interchangeably through the remainder of this report.

Working capital for the company was about $4,000 at the beginning of the drug program. Of this, all the money that was left (about $1,200) went into the production of a printed, two-color brochure. An artist was hired to illustrate the cover and instructed to "draw what we ought to look like"; the developers felt that showing a group of people who would commonly be called "hippies" was not the best way to advertise their program. A drawing of three clean-cut gentlemen in business suits and two men in white, professional-looking laboratory coats grouped around a conference table came to grace the cover of the brochure.

By now the second version of the Marijuana booklet had been written, and two slides and a cassette recording on heroin had been produced. Now that he actually had part of the product, Mr. Kinney was ready to advertise and line up buyers for the drug program. According to his business sense, Mr. McKinney felt that the time was ripe to sell a drug program, so sell he did, even though as yet there was no program. He talked to graduate students students and educators and even held a meeting at a town hall to tell people about his "program." Unsophisticated in the educational field, Mr. McKinney was at this time the victim of some misconceptions. He thought that if you had as good a product as he intended to have, and if you just told a few people about it, the word would spread like wildfire and orders would come pouring in. He was soon to realize that products do not sell themselves. Too, he did not reckon with the slow process by which school districts purchase new materials. Nor did he realize that products purchased for the September term are considered during the previous winter and ordered during the previous spring.

Throughout these early months of development, McKinney, Winchell, and Bennett supported themselves and prepared their materials by using Mr.

McKinney's savings and short term small loans from personal friends. Working capital totaled about $8,000 at this point. Requesting a grant from the government was considered but quickly decided against on two bases. One was that there was not enough time to wait for Federal cogs to turn; a government grant could most likely not be acquired within the year. The second basis for deciding against asking for a government grant was that the Creative Learning Group felt restrictions would be placed on what they could say about drugs because of government drug policies.

In May of 1970, Professor Renato Tagiuri, a friend of McKinney's from Harvard, notified the group that Interlink, a company he was associated with, functioned to put small companies with good ideas in contact with sources of capital. Harry Lodge, of the New York Lodge family, was the moving force behind Interlink. For a percentage of resulting profits, Interlink would help the Creative Learning Group contact established capital sources. Interlink interested the Canadian Branch of an English firm, Charter House, in the drug program. Charter House would venture $25,000 to get 25 percent of Media Engineering. Interlink would receive 5 percent, and Winchell and Bennett would receive 5 percent each. The remaining 60 percent of the company was to be Mr. McKinney's since he was the driving force in getting the program started and the major contributor of ideas. With the prospect of $25,000 before him, Mr. McKinney began to hire a staff.

Unfortunately, matters went quickly awry. Vaughn Winchell had long viewed McKinney's methods as irresponsible; pretending to have a product that did not yet exist went against the grain. Further disturbed by the paltry 5 percent of the company allotted him, Winchell quit, and David Bennett went with him. McKinney was left with a program that needed developing and only a secretary and a "gofer" to assist him. He knew he needed someone to help whom he could rely on. McKinney contacted Richard S. D. Hawkins, with whom he had worked at Harvard University to produce a magazine called the Harvard Art Review (not directly connected with the school) and who had experience in film and communications.

Mr. Hawkins, who is currently Deputy Director of Media Engineering Corporation, came from a background somewhat similar to McKinney's. He shuffled among a variety of majors at Harvard, took courses in everything from archeology to oriental studies, and finally graduated in English. He traveled in Southeast Asia on a Fulbright grant, and returned to the U.S.

to enter the Master's program in Southeast Asian studies at Yale. Personal convictions plus a long experience of dissatisfaction with his own education led him to feel that our society tremendously needs better methods of education. Based on a number of years of informal work with children, Hawkins concluded that even very complex subjects can be taught to young children if put in terms they can understand and which relate to their level of experience. When McKinney asked him to help develop the drug program, he followed his "gut feelings" rather than consider that he had none of the "official trapping" of a teacher or a drug expert. For a weekly salary of $125, he joined McKinney with the idea that "it would provide an interesting summer and then the whole thing would fold." A far more practical person than McKinney, Hawkins saw little chance for success; they had no reputation and had no experience in the educational field. And on his arrival in early June, they had no money. Harry Lodge had learned that McKinney had once been arrested (but not convicted) for possession of hashish and decided that the esteemed organization of Interlink dare not be involved with a person whose character might be considered dubious.

McKinney and Hawkins then set about finding friends who could loan them a few thousand dollars. Four or five such arrangements were made. Two or three research assistants were hired on hourly wages, with no guarantee that they would be paid regularly. When money was available, the staff was paid. Most of the time they took what they needed to live on.

The Creative Learning Group recognized the need to have the names of some well-known drug specialists associated with their program to lend authenticity to their work. They did not need information as much as they needed the association of their names, so that their product would not be challanged as having been written by a group of novices with inflated ideas. The manner in which McKinney enlisted the aid of the renowned specialists illustrates further the cart before thehorse analogy.

McKinney had been impressed with an article called "Marijuana" by Dr. Lester Grinspoon which had appeared in Scientific American. After ascertaining that Grinspoon was a friend of a friend, Mr. McKinney called on him to enlist his aid as editor of the Marijuana booklet. A friendship was formed at that time which has continued to the present, and McKinney went over the galleys of Grinspoon's book, offering comments and suggestions. Later this favor was somewhat reciprocated when McKinney got Grinspoon a

place on Bill Buckley's firing line program, where he was able to give his views and plug his book. Dr. George Vaillant, perhaps the foremost name in herion research, agreed to consult as the heroin expert when he heard that the respected name of Dr. Lester Grinspoon was already associated with the project. He in turn recommended Dr. Conan Kornetsky as the leading man in the study of barbituates and amphetamines. The rest of the drug specialists enlisted willingly with such an elite core of experts involved. The staff of medical editors is listed below.

Mr. Lester Grinspoon (Marijuana) is currently Associate Clinical Professor of Psychiatry at the Harvard Medical School and Director of Psychiatry at Massachusetts Mental Health Center. He is also a consultant in Psychiatry and Research at State Hospital in Boston and is an Examiner for the American Board of Psychiatry and Neurology. With over 48 articles and publications to his credit, he is currently preparing an authoritative book on the subject of marijuana to be published this fall.

Dr. Conan Kornetsky (Prescription Stimulants and Depressants) is currently a Research Professor in the Division of Psychiatry and the Department of Pharmacology at the Boston University School of Medicine. Between 1950 and the present, he has published singlely and in association with others over 49 articles and 7 books, mainly dealing with the effects of various stimulants and depressants.

Dr. Richard Goldwater (Legal Stimulants) is a Clinical Fellow and Resident in Psychiatry at the Harvard Medical School. He is a consultant to Project Place, a Boston counseling center for young people, and to the Washingtonian Hospital, a treatment center for addicts and alcoholics. He also serves as Clinical Chief for the Cambridgeport Problem Center. As a psychiatrist and physician, Dr. Goldwater has become well known for his work with troubled adolescents in the Boston area. He is currently working on a book which will deal with the subject of Volunteer Community Health Services.

Dr. Joseph Mayer (Alcohol) is the Director of the Washingtonian Hospital. In addition, he serves as Chief of Training and Program Director of the N.I.M.H. Drug Rehabilitation Center at Boston State Hospital. He has been the Co-Director of the Alcoholism Clinic at the Peter Bent Brigham Hospital, and currently serves as a Clinical Consultant. He is an instructor in Psychology, Department of Psychiatry, at the Harvard Medical School, and serves as Assistant Clinical Professor of Psychiatry (Psychology) at the Tufts

University Medical School. He has published many articles dealing with the effects of and the treatment of alcoholism and other drug-related problems.

Dr. Roger Meyer (Narcotics) is currently an Associate Professor of Psychiatry at the Boston University Medical School. He has served as a consultant to the APA Task Force on Drug Abuse and as a member of the Advisory Committee for the NIMH and FDA on Hallucinogenic Drugs and Marijuana, and was Chief of the Center for Studies of Narcotic Addiction and Drug Abuse with the NIMH. He is a certified member of the American Board of Psychiatry and Neurology.

Dr. David Myerson (What is a Drug) is the Superintendent of Worcester State Hospital, as well as an Associate Clinical Professor at the Tufts University Medical School. He serves as lecturer at both the Harvard University Medical School and Clark University. Formerly the Director of the Drug Unit at Boston State Hospital, he also set up the drug unit at Worcester State Hospital, to which he is currently advisor.

Dr. Richard C. Pillard (Hallucinogens) is an Assistant Professor of Psychiatry at the Boston University School of Medicine and Head of the Basic Studies Unit of the Psychopharmacology Laboratory. He is also an Assistant Professor of Psychiatry at the Boston University School of Graduate Dentistry and the Assistant Visiting Physician in Psychiatry at the University Hospital. He is currently serving on the Advisory Board of the Regional Association of Drug Action Representatives.

Dr. Albert Samaraweera (Drug Dependency) is currently the Clinical Director of the Drug Rehabilitation Center at Boston State Hospital. He has served as Assistant in Psychiatry at the Harvard University Medical School, Senior Psychiatrist at Boston State Hospital, and Physician at the Alcohol Research Unit at Boston City Hospital. In addition, he is Supervisor of the training program on drug education at the Washingtonian Hospital and an Assistant Clinical Professor in Psychiatry at the Tufts University Medical School. He is a member of the American Board of Psychiatry and Neurology.

Dr. George Vaillant (Heroin) is an Assistant Professor in the Department of psychiatry at the Tufts University Medical School. He serves on the Editorial Board of Seminars in Psychiatry and is a Research Psychiatrist at the University Health Services of Harvard University. He was the recipient of the USPHS NIMH Research Scientist Development Award, Type 1 in 1968 and the Helene and Felix Deutsch Prize, awarded by the Boston Psychoanalytic Society, in 1969. During the last ten years he has been the author or co-

author of over thirty articles and papers, many dealing with the problem of narcotics and narcotic drug addiction.

The role of the drug specialists was simply to review the booklets once they had been written by the Creative Learning Group staff and to certify that the factual information was correct. The word of the specialists was final, except for a few instances when the authors were able to convince the consultants that their own information was more recent and/or more accurate than that of the specialists. Each consultant was paid $150 for his review of the booklet in the field of his specialty.

Funding for Product

Funding of the Media Engineering Corporation had always been a shoe-string operation, hanging on to the good will of suppliers and the wealth of friends who could make small short term loans. Hawkins admits that they were never sure when they might have to face the decision of whether to close down operations or to go further into debt. They considered soliciting from foundations, but they felt that the process would take too long and that most foundations were not likely to fund corporations founded on a profit basis. The government was never seriously considered as a funding source simply because of the lag between the time funds are requested and the time they might be granted. Hawkins says that they really didn't know what they were doing in the area of funding. Although they had thought that their program might look like a poor risk from the outside, they also thought that the minute people heard about their materials that orders and money would come pouring in at a fast rate.

When private sources were no longer adequate, McKinney, Hawkins, and Gary Garmon, the firm's treasurer-comptroller, tried the last resort, a bank. They are still not certain why a banker had confidence in a group of "hippie-types" with no experience in the field of education publishing but who had great ideas and hopes for success. The Cambridge Trust Company did, however, seem to find some basis for optimism, and a $45,000 line of credit was extended over McKinney's and Hawkins' personal signatures on December 1, 1970. It is with this line of credit, in combination with their own growing sales volume, that Media Engineering Corporation is currently operating. A chart showing sales growth is included in Appendix E, as well as is a chart of the corporation's resources, both human and monetary.

Approximately $50,000 had been spent by the Creative Learning Group in producing and distributing their two drug programs up to April 1971. Approximately $80,000 in sales had been made by May 1971. Research and development of the junior high program cost about $16,000. Garmon estimates that 20 percent of the cost of the materials goes into production, 40 percent to distribution, and 40 percent to margin of profit.

Although most of the small loans made in the early days of development have been converted to stock in the corporation, large numbers of stockholders will not be encouraged. The Creative Learning Group intends to keep the stockholders generally within the members of the working staff. The search for small investors also continues.

Garmon reports that they hope that their sales will catch up with their costs during the summer of 1971. Thereafter, the drug program would support their future efforts with innovative educational products. The Income Statement for the first quarter of 1971 is provided in Appendix F to give further indication of the corporation's financial position.

PRODUCT DEVELOPMENT

Management and Organization

In Appendix C is a diagram of the organizational structure of the Creative Learning Group (Media Engineering Corporation). Responsibilities are divided among the president, vice president, treasurer, production staff, program development staff, and marketing staff.

As will be pointed out, the drug program was the major focus of the Creative Learning Group, and still is; however, several new ventures are developing within the present organizational structure.

Original Development Plan, Modifications, and Actual Procedures

Development

The contents and format of the junior high program had been fairly well determined by the time Hawkins arrived in June 1970. But the research, writing, and production remained to be done. Every type of drug information available was utilized; scientific papers, journals, and books, both published and unpublished, were consulted to reinforce the sizeable quantity of knowledge already stored in the brains of McKinney and Hawkins from earlier experience

and research. They each wrote booklets and edited each other's work. When standard methods of research failed to turn up information, they phoned people who knew the answers. If their own contacts didn't have the answers, contacts of contacts did.

The staff worked long hours at minimum pay throughout the summer to get the program ready for September. Friends of people off the street were interviewed for the tapes. The interviews were edited, but the staff strove to keep the stories and attitudes expressed authentic. The staff increased to 12 by the end of the summer. Several of these were free-lance writers and researchers who only worked part-time.

Working long hours at minimum pay, the staff might have had difficulty keeping things running smoothly. As Creative Learning Group members delight in stressing, it was enthusiasm and belief in their work that allowed them to produce so much in such a short time. Mr. Hawkins feels that the greatest potential problem on the staff was between Mr. McKinney and himself. They were the dominant members of the group. But, because of their complementary personalities and common goal, difficulties seldom arose. Hawkins, characterizing himself as "heavy, plodding, and methodical," balanced McKinney who "tended to go flying off in all directions at once." They found it possible to reach decisions informally and without difficulty.

Weekly "family meetings" typified the working relationship among the staff. Friday afternoons were partially devoted to informal get-togethers to solve problems and discuss progress. Staff members helped build and decorate walls and install wiring as well as carry out their developmental duties.

Under the assumption that professional people with advanced degrees might make a worthwhile contribution to the project, two educational psychologists who had expressed interest in the program were hired to prepare the teacher's manual. Notes and suggestions from the staff were given as guides to the writers with the belief that their professional experience would enable them to greatly enlarge upon the ideas outlined. They were paid $500 in advance with $500 more promised, plus a royalty.

With the arrival of the completed teacher's manual imminent, the junior high program was virtually ready for distribution. The booklets had been written, edited, typed, and printed. The AV materials were ready. The binders had arrived in which to package the program.

The psychologists at last brought the completed teacher's manual but McKinney and Hawkins were shocked with what had been produced. The teacher's manual turned out to be a rewriting of the notes the writers had been given, totally insufficient and unacceptable. McKinney reports that "the simplicity and idiocy" of the manual were not to be believed. The authors were refused the remaining payment, and, for 24 hours, the staff was paralyzed. They could not believe that all that money, time, and professional expertise had produced nothing. The Andover schools had been promised a program for June delivery; it was now September. McKinney and Hawkins had to decide what to do about the teacher's manual. Using the existing teacher's manual was out of the question. Neither could the program be used without a teacher's manual. McKinney and Hawkins reached a decision: four copies of the teacher's manual were xeroxed and the program was sent to the Andover schools with the explanation that a new manual would be substituted shortly. McKinney and Hawkins then went to work. For 12 hours a day for ten days, they wrote, rewrote, and typed the new teacher's manual. When it was completed, it was sent to the Andover schools and was included in all other kits as well.

When the junior high program development was completed in September 1970, the development staff turned to the task of bringing order out of the relative chaos that had reigned during the previous hectic months. Production channels had generally carved themselves out of the confusion; McKinney and Hawkins now formalized the organizational structures and procedures. Appendix C shows the current structure.

The Creative Learning Group next turned to the development of materials for the fourth grade level. A new writer was hired to rewrite the existing materials at the lower levels. Susan Worgaftik was assigned to assist in this rewriting in December of 1970.

Miss Worgaftik came to the Creative Learning Group with a B.A. in English and history from the University of Connecticut, a teaching credential from Columbia University Teacher's College, and with experience teaching migrant children through the JOBS program. She says that her first task with the group was helping to unload a truck. By January 1971, Miss Worgaftik had come to the conclusion that the rehash of the existing materials for the lower levels was not what was needed. She disagreed with the other writer on the project who had envisioned relatively standard texts with questions and things to do. She requested permission from McKinney and Hawkins to

start over with a whole new approach. She suggested that a complete K-6 program be done as a unit rather than starting at the fourth grade and worrying later about getting it to mesh with a K-3 program to be developed later. Permission was granted and Miss Worgaftik was assigned the entire responsibility of producing a K-6 program by May of 1971 when, as experience had taught them, schools would place their orders for the following school year's materials.

Miss Worgaftik utilized the experience she had gained in helping to develop a curriculum on urban studies for use in training teachers at Columbia. Rather than standard texts, she wanted books with pictures that children could have as their own, books they could write in. The same type of drug information as in the junior high program would be covered, but in a picture and story framework that related closely to children's own experiences. Since the drug information from the junior high program was the basis of the K-6 course, little new research had to be conducted. Miss Worgaftik concentrated on writing the texts, supervising the photography, and even producing the actual print-ready booklets. McKinney and Hawkins gave assistance in editing. Only the second grade booklet was photographed by a professional. The rest were done by free-lance amateurs; photos for the first grade book were even done by a 13-year-old.

Mr. Arnold Levine, who is Coordinator for Health and Drug Education for the Randolph, Massachusetts, elementary schools, acted as an unpaid consultant. He discussed with Miss Worgaftig the type of materials he had always wanted to use but had never been able to find. The flash cards, unfinished stories, and "Dear Abby" type of letters were inspired by his recommendations. The research and development for the K-6 program took about five months from Miss Worgaftik's first formulation of ideas to printing.

Formative Evaluation

With respect to formative evaluation of the junior high program, Laurence McKinney pointed out, "We didn't do a hell of a lot of testing because we knew we were right." The Creative Learning Group was sure of their facts about drugs; they had the latest information and the leading specialists in the field. The opinions of friends and people who happened in off the street were solicited during the writing and editing phase, however, to make certain that the booklets and tapes were interesting and enjoyable as

well as indisputably factual. In general, the young people who read the materials found them interesting and noted that they had confidence in what they read because of the factual approach. No records were kept of these evaluative incidents, however. The Marijuana booklet, the first to be written in the early spring of 1970, did undergo subsequent changes as new information was acquired. The fourth edition is now incorporated into the junior high program.

Similarly, due to the lack of time and staff, few formative tryouts were conducted at the K-6 level. A few informal trials were done with children. One bright first grader read through the first grade book and half of the second grade book because he found the material so interesting. For the fall term of 1971, however, three schools have offered to use the program and assist in evaluation of the materials. These contacts were made through personal friends and associates of the Creative Learning Group staff.

Several independent formative evaluation efforts have been conducted. In July 1970, a teacher training student at Boston University taught the Marijuana booklet using pre-publication copies to a group of teacher trainees. She also used the tape of a marijuana convict interview. A questionnaire, developed by Hawkins, was administered to determine what the response of teachers would be to the program. In August, Dr. Richard Charness, Director of Field Sales for the Media Engineering Corporation, used published copies of the Heroin booklet and the tape of a 17-year-old heroin addict to demonstrate that section of the course for social workers, nurses, and addicts at Worcester State Hospital. A second questionnaire prepared by Mr. Hawkins was administered at the close of the demonstration course. Copies of both questionnaires and the response to them are included in Appendix D. Generally, the responses in both cases were positive, but not unanimously so. The developers still have no real data to indicate if students like the material or if they learn well from it.

The Teacher's Manual Introduction, in an attempt to improve on the group's evaluation of the program, states:

> The Creative Learning Group would appreciate and value any comments you may have on the program and your experiences in class. This Teacher's Manual could undoubtedly be improved, and your suggestions will be most welcome.

No money has been available for more thorough attempts at evaluation than these. Mr. Hawkins feels, too, that the major effects of the course should be affective in nature, and, as such, will not be apparent as major results until two or three years after the course has been taken. The actual success of the course might be measured at that time in terms of how many course alumni are taking or have taken drugs, what they have taken, and why.

SUMMATIVE EVALUATION

No summative evaluations of the Creative Learning Group Drug Program have been conducted.

DIFFUSION

Agency Participation, Strategy, and Efforts

Dissemination of the Creative Learning Group Drug Education Program began in the spring of 1970, well before the program had been completed. Mr. McKinney's initial idea, as mentioned before, was to tell a few people about the program, then sit back and fill the orders as they poured in. It was soon apparent that no matter how great a program was in the offing, it wasn't going to sell itself. Mr. McKinney then hired Richard Charness, a recent graduate of a sales institute, to handle sales of the program. Charness had had personal drug experience and heard about the program through a friend. Selling a drug program that did not yet exist sounded much more interesting to him than his current job selling coats and jackets. He organized a sales presentation using the first Marijuana booklet and the brochure and hired one other salesman from his alma mater. Working on a 17-1/2 percent commission, this newly formed sales force began to contact school superintendents and local people authorized to select and purchase drug programs. With the line, "I'm sorry I can't show it to you today--it's at the printers," Mr. Charness prefers to think of his early methods as "selling an intangible." He reports that his efforts always met with favorable and enthusiastic response. The only reason ever given for not ordering the program was lack of money.

In the beginning, Charness planned to divide the U.S. into seven regions, with a regional manager for each. He would then have to communicate only with those seven salesmen rather than with all the men in the field. Because of lack of funds, only the Midwest region has a manager at this point. Charness contacts the rest of the salesmen by mail and phone.

Keeping salesmen has not proved easy. Twenty have resigned or have been fired since the beginning. Because of lack of funds, Charness cannot train or adequately supervise the sales force. Salesmen have to believe sincerely in the value of the product, for few can support themselves yet on the commission. And the task of selling is itself becoming more difficult. During the spring of 1970, there was only one other drug program on the market. By the time the Creative Learning Group's program was published in September, seven or eight companies were producing supplementary or complete drug education materials.

The Creative Learning Group did consider having another company distribute the drug program and they had several such offers. However, as Mr. McKinney says they had "sweat blood producing it" when everybody said they couldn't succeed. As more and more pieces of the program were produced, people began rushing in, acknowledging the worth of the product and asking 40 percent of the profits to sell it. McKinney and Hawkins know that they could have initially made more money by bringing in an outside distributor, but as their own sales network grows, the in-house sales arrangement will prove more lucrative. The decision was, however, both an emotional and a business one. No funds were forthcoming from other companies when the product was just an idea; the Creative Learning Group had no intention of turning over a large percentage of their profits to any "johnny-come-latelies."

So the dissemination effort continued. In August 1970, a mailer was sent to schools with a tear-off coupon that could be sent for further information. That same month, a William F. Buckley column appeared in the newspapers across the country, extolling the expertise of Laurence McKinney in the drug field. The story behind the article is interesting, if not terribly illuminating.

In May 1970, there was a riot in Harvard Square in Cambridge, directly beneath the windows of Mr. McKinney's office. He witnessed the confrontation between students and police and characterized it as the now-annual spring melee during which students provoke police and police overact. Thereafter, an article appeared in William F. Buckley's column, written by a Harvard sophomore. The author claimed that the student rioters had all been high on drugs. Outraged at the misrepresentation of drug use, Mr. McKinney wrote Mr. Buckley, stating his distress that Mr. Buckley would allow a misinformed person to use his column irresponsibly. An exchange of letters and a luncheon

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with Mr. Buckley followed. He was duly impressed by Mr. McKinney's knowledge and attitudes about drugs and wrote the article praising McKinney and the Creative Learning Group Drug Education Program. As a result, 4,000 letters poured into Media Engineering Corporation, largely from frantic parents. The net result of the column was more work than sales.

On three Saturdays during October 1970, members of the Creative Learning Group attended teacher training sessions put on by the city of Boston. Their drug materials were presented at one of the sessions. The staff members in attendance found ample opportunity to demonstrate their competence and concern to the teachers present.

The latest diffusion technique, placing eye-catching ads with mail-in coupons in newspapers and magazines, has not operated long enough at this time to have measureable results. Currently, the Creative Learning Group is attempting to grant a franchise to an outside sales force already in educational publishing. This second sales force would operate parallel to the in-house sales network and would concentrate on selling the drug program in major metropolitan areas.

Sales efforts for the junior high program were originally aimed at middle class suburban school districts. A separate inner city program was considered a potential future product. The staff, predominantly a middle class white group, felt that their program would naturally appeal most to people like themselves, but it is proving to be attractive to black inner city schools, too, since they are now ordering the programs. Further information about sales of the programs is included under the section on Adoption that follows.

In summary, then, the Creative Learning Group's methods of dissemination have included talking about the program to everyone with whom they came in contact; contacting individual schools and districts through their own sales force; sending a mailer with a tear-off coupon to thousands of schools; making themselves known to William F. Buckley, who has publicly championed their program; attending local teacher training sessions to demonstrate and discuss their materials; placing advertisements with coupons in magazines and newspapers; and attempting to arrange for an independent distributor to market their materials. Newspaper, magazine, and journal articles
have all produced inquiries and added to the Creative Learning Group's mailing list. Leads are followed up by letter and by a representative if

possible. Direct mail has proven to generate interest, but a visit by a representative is usually necessary to explain the program and to take orders.

Product Characteristics and Other Factors Affecting Diffusion

Both the junior high and the K-6 programs are easily assimilated into existing curricula. Also, the books for levels K-6 can easily be incorporated into reading lessons. The greatest difficulty in using the product is probably that teachers are nervous and insecure in the subject area. Drug use is a touchy subject in our society, and many teachers would most likely welcome a drug program that consisted of students reading texts and taking tests rather than participating in open discussions that might prove difficult or embarrassing. The recommended teacher training aims at helping teachers to feel comfortable with the subject matter and to free themselves of teaching methods based on the premise that the teacher talks and the students listen and memorize.

The cost of the materials is not prohibitive, but depends on how the materials are used. The junior high program start-up cost is $219 for a class of 30 students. Approximately $110 of this price is for the teacher's audiovisual instruction package which can be used for as many students and for as many years as desired. A very advantageous aspect of this TAV is that the Creative Learning Group automatically supplies the latest and most accurate information available for the Teacher's Manual at no extra cost to the user. If the student booklets are consumed, as is intended by the developer, the second year's cost would be between $2 and $3 per student. The complete K-6 Multi-Media Package for 30 pupils at any grade level costs $125. The Multi-Sensory Learning Package and Teacher's Manual (covering all seven levels), which can be used for any number of students for a number of years, represent $95 of this start-up cost. If the booklets are used as consumable items, continuation costs in the K-6 program would be between $.88 and $1.20 per pupil, per year. If, however, the pupil booklets are not consumed, there would be no continuation costs until the booklets needed replacing. Audio-visual kits, student booklets, and teacher's manuals can all be purchased independently, although the Creative Learning Group prefers to sell complete sets in the belief that no one part of the program should stand alone as an adequate drug presentation.

ADOPTION

Extent of Product Use

In September 1970, 20 school systems were using the junior high program. As of April 1971, 248 complete junior high programs had been sold. Schools and school districts are far from being the only purchasers. Police departments, drug information centers, colleges, universities, a penitentiary, churches, libraries, a Kiwanis club, doctors, and even a power and light company number among the purchasers. Thirty-one states are represented, as well as Ethiopia and Taiwan, with the heaviest distribution in New York and New England. If each of the kits sold is used for the 30 students it is intended for, more than 7,400 people have been reached, most of whom are probably members of the middle or lower-middle classes.

Although little feedback has been received from users at this point, some teachers have responded to the request for comments in the Teacher's Manuals. This response has been "mixed," but is generally favorable. The only criticisms received so far pertain to the quality of the paper and illustrations in the booklets. No other evidence of success or failure has been found.

As for expected sales by September 1973, Mr. Hawkins says, "In keeping with our stout belief that attempts to forecast the distant future are made by fools and charlatans, we have resisted the temptation to pull a random figure out of the air and give it the imprimatur of our Marketing Department. Instead, we have taken an informal poll of key members of the organization and asked them for educated guesses." The results: Creative Learning Group anticipates the sale of anywhere from 1,000 to 6,000 drug programs by September 1973.

Installation Procedures

Installation of the drug program requires no unusual physical arrangements, equipment, or classroom organizational procedures. Teacher training is critical. However, the only teacher training available at this time required that several schools in an area using the program assemble their teachers so that a Creative Learning Center staff member can hold a workshop for many teachers at one time. Thus far, teacher training efforts of the staff have not been very encouraging. Their first effort toward teacher

training was a Saturday morning seminar held at a Cambridge motel on November 7, 1970. Invitations were sent to all purchasers, prospective purchasers, and interested parties. A formal presentation and teaching exercises were scheduled, but the turnout was so small, despite good weather, that it turned into an informal discussion among the approximately 25 people in attendance. McKinney gave a brief lecture on biochemistry and neuropharmacology. According to the developers, the teachers present seemed to find that the session gave them considerable confidence in finding their own teaching styles.

Two teacher training sessions have been held on the K-6 program for the entire elementary school staff of the school system in Salem, Massachusetts. Since the town did not want to pay its teachers extra for training, the sessions were limited to two 1-1/2 hour periods held after school hours. Because of their brevity, the training sessions were limited to explanation and discussion of how to use the materials. Mr. Hawkins reports that more time was needed to work on teacher attitudes and methods of approaching the whole issue of drug usage.

Disappointing as their efforts have been, the Creative Learning Group currently has a more systematic teacher training program in the planning stage. This will eventually operate as one part of a drug abuse consulting division.

FUTURE OF THE PRODUCT

Development of the Creative Learning Group drug program was so hectic that several important tasks remain for the future. An affective student questionnaire is planned for the fall of 1971. Currently, new and additional information is sent to users regularly. The Creative Learning Group does not want to be held responsible five years hence for a drug program that is five years out of date. A regular teacher training program will be developed. An attitudinal teacher profile is anticipated as a future project. Teachers using the program would be surveyed to find out what type of teacher characteristics are linked to particular student success or failure. If significant, this information could then be given to schools to aid them in assigning teachers who would have the best possible chance of success. Mr. Hawkin's feeling is that the program hasn't worked as well as it should, simply because

most teachers are not prepared to handle the new and trying subject and the free-flowing teaching methods.

Anticipated future projects will include programs in ecology, voter education, practical law, and art, as well as a drug consultation service for industry. The Creative Learning Group Drug Education Program is seen by its developers merely as the first in a series of educational ventures. As the running of the corporation becomes more orthodox, less exciting, and less dependent on the individual talents of Laurence McKinney and Richard Hawkins, these two ambitious and energetic young men will probably move on and leave Media Engineering Corporation and the Creative Learning Group to be run by members of the "Establishment."

CRITICAL DECISIONS

The following events are a good approximation of crucial decisions which were made in the three year history of the Creative Learning Group Drug Education Program. For each decision point, the following types of information were usually described: the decision that had to be made, the alternatives available, the alternative chosen, the forces leading up to choosing a particular alternative, and the consequences resulting from choosing an alternative.

Although an attempt has been made to present the critical decisions or turning points in chronological order, it must be clearly pointed out that these decisions were not usually made at one point in time, nor did they necessarily lead to the next decision presented in the sequence. Many of the critical decisions led to consequences that, in some important way, affected all subsequent decision making processes.

Decision 1: To Develop a Drug Education Program

In March 1970, McKinney and Winchell decided to develop a drug education program. Their original plan for Media Engineering had been to act as a clearinghouse for educational materials developed by others. However, no good drug programs existed at that time, McKinney had considerable experience and interest in the subject, and they felt they were as well qualified to develop such a program as anyone else. This decision shaped the entire future course of the company.

Decision 2: To Use a Systematic or Programmed Format

In planning their prospective program, the staff of Media Engineering

decided to use a programmed format, a highly specific teacher's manual, and audiovisual materials as an integral part of the program. This decision, or series of decisions, stemmed from their beliefs that most teachers are incompetent and that the students are not likely to be brilliant or enthusiastic learners. The programmed format heightened the probability that the students would read the books, even though the reading assignments were to be done at home. The teacher's manual would provide such detailed directions that even the poorest teacher would be able to use the materials fairly successfully, and the audiovisual materials would lend authenticity and interest to capture the students' attention. The results of this decision will only be known when the success and appeal of the program in classrooms is known.

Decison 3: To Advertise the Product Before It Was Developed

McKinney decided to advertise his drug program as a finished product long before it existed as such. First, he was certain enough of what he intended to produce to prepare a brochure describing it as if it already had been developed. Secondly, he did not want to wait until several other drug programs had entered the market before he advertised his. Third, he had complete confidence in himself, even working alone he felt he could produce the promised product. It is possible that many purchasers of the Creative Learning Group program would have placed orders for other programs had McKinney not been premature in his advertising.

Decision 4: To Solicit Private Rather Than Government Funds

The Creative Learning Group decided not to solicit development funds from the government for two reasons: (1) they felt that government funds could not be received quickly enough, even if they were granted, and (2) they believed that government drug policies would not allow them an entirely free rein in what they could say about drugs. They also decided against soliciting funds from foundations on the grounds that the process would be too lengthy. They also felt that foundations were not likely to grant funds to a private, and hopefully profit-making, firm.

If the Creative Learning Group had solicited and received a considerably greater sum of money than they did have, perhaps more formative evaluation would have been possible and perhaps the drug program would have been considerably different. However, time constraints would still have been on them in order to beat other drug programs to the market. More testing, therefore, may not have been possible even with more money.

Another possibility is that, with more money, they would have hired more expensive, "better qualified" people to write the booklets and wound up as dissatisfied with the entire program as they were with the professionally prepared teacher's manual.

Decision 5: To Contact Hawkins

McKinney's decision to contact Hawkins was probably a momentous one. Without Hawkins' practicality and ability to work with McKinney, the entire project might well have collapsed. McKinney contacted Hawkins because he knew he could be relied upon and because the rest of his staff had quit.

Decision 6: To Enlist Leading Drug Experts As Consultants

The Creative Learning Group decided to enlist leading drug experts as consultants for their work, rather than publishing the program with only their own names associated with it. They felt that more authenticity would be ascribed to their work if well-known drug experts with impressive backgrounds and titles had consulted in development. The decision seems a valid one; they have few means of proving thier worth as drug experts since most teachers and administrators are not in a position to judge the factualness of drug materials from their own knowledge and experience. It is quite probable that no one would have had much faith in the materials without the association of renowned names.

Decision 7: To Have Professionals Write the Teacher's Manual

The decision to enlist professional psychologists to write the teacher's manual appeared to be an unfortuante one. The developers had believed that people with more formal education and experience would be able to produce a better teacher's manual than they could themselves. Perhaps two other professionals would have done a suitable job, or perhaps they could never have communicated their expectations to outsiders. At any rate, time, money, and frustration would have been saved if they had decided to write the teacher's manual themselves in the first place. The Creative Learning Group did learn from this incident, however, that they should hire people in person and from their own intuition rather than from a resume and that the only way to be sure a job was done right was to do it themselves.

Decision 8: To Develop a New Teacher's Manual

Upon receiving the totally unacceptable teacher's manual from the psychologists, McKinney and Hawkins had to decide what course to take. They

could (1) use the teacher's manual as it was even though it detracted from the program as a whole, (2) ship the programs on order without any teacher's manual, (3) delay shipment of the promised orders until a new teacher's manual could be written, or (4) temporarily use the bad teacher's manual and replace it as soon as possible. They decided against including the teacher's manual permanently since it nearly ruined the program. The program relied heavily on the proper use of the teacher's manual, so they could not omit it. Schools had been promised the program for months, so they could not delay shipment further. They decided on the fourth alternative. Had they accepted the first teacher's manual or excluded the manual from the program entirely, the Creative Learning Group is sure that the quality of the program would have suffered immeasurably.

Decision 9: To Focus on a K-6 Program

The decision to abandon development of a fourth grade program was an important one. Susan Worgaftik came to the conclusion that the work being done on that project was just not producing anything worth having. Tha major writer on the project was too hemmed by by a standard approach, and attempting to mesh the new program with a future K-3 set of materials would be difficult. She requested and received permission to start over with a K-6 program. The effect of this decision may never be known and can certainly not be judged until the K-6 program has been tried in the classroom.

Decision 10: To Keep Marketing Within the Creative Learning Group Organization

The Creative Learning Group decided not to turn distribution of the drug materials over to another group. Although immediate sales might have increased considerably, they felt that in the long run, more projects were attainable by keeping marketing within their own corporation. This decision was also, as has been noted, an emotional reaction to the offers of companies to distribute when they had earlier refused to help develop. Results of this decision will only be known as sales grow or decline. If Media Engineering sells a lot of drug programs, their sales efforts will have been worthwhile.

Decision 11: To Turn the Creative Learning Group Into a Real Educational Publishing Firm

The decision to turn the Creative Learning Group into a real educational publishing firm, rather than just a bunch of freaky drug experts, was not a

clear decision, but it crystallized during the first half of 1971 as various staff members saw future opportunities to produce their dream programs. According to the developers, the corporation is now sufficiently stable as a business to make success in this long-term venture probable.

REFERENCES

The Creative Learning Group. Drug education program. Cambridge, Mass.: Media Engineering Corporation, 1971.

Grinspoon, L. Marijuana reconsidered. Cambridge, Mass.: Harvard University Press, 1971.

APPENDIX A

SCIENTIFIC AMERICAN REPRINTS

These reprints are included as specific additional reading for the teacher. They include articles on certain of the various drugs, treating them more thoroughly than possible in the booklets or the teacher's manual. Articles concerned with the social aspects of adolescence are also included.

1. "Barbiturates" by Elijah Adams
2. "The Hallucinogenic Drugs" by Barron, Jarvik, and Bunnell, Jr.
3. "Analgesic Drugs" by Marshall Gates
4. "Marijuana" by Lester Grinspoon
5. "The New Psychiatric Drugs" by Harold E. Himwich
6. "The Effects of Smoking" by E. Cuyler Hammond
7. "Experimental Narcotic Addiction" by John R. Weeks
8. "How Opiates Change Behavior" by John R. Nichols
9. "Experiments in Perception" by W. H. Ittelson and F. P. Kilpatrick
10. "Behavioral Science and Criminal Law" by Edward J. Sacher
11. "Opinions and Social Pressure" by Solomon E. Asch
12. "Suicide" by Don D. Jackson

SLIDES USED IN AUDIOVISUAL PACKAGE

1. Brick of marijuana "A Brick of Marijuana Weighs About Two Pounds"
2. Female marijuana plant "Marijuana Is Made From the Hemp Plant"
3. Marijuana, loose and in "baggies" "Marijuna Is Often Sold in Plastic Bags"
4. Marijuana pipes and "joints" "Marijuana Is Smoked in Pipes and 'Joints'"
5. Pieces of hashish, plain and wrapped "Hashish Comes in Many Forms"
6. Capsules and tablets of mescaline "Mescaline Comes in Capsules and Tablets"
7. LSD in various forms "LSD Is Talen in Capsules, Tablets, and on Blotting Paper"
8. A selection of other hallucinogens "Other Hallucinogens, or Sense-Distorting Drugs"

9. Belladonna extract and medicines using it "Belladonna Extracts Are Found in Many Remedies"

10. Cigaretts, cigars, pipes, snuff, and chewing tobacco "Nicotine Is Found in All Tobacco Products"

11. Examples of most amphetamines "There Are Many Kinds of Amphetamines"

12. Coffee, tea, cocoa, soft drinks and medicines contain caffeine "Caffeine Is Found in Many Drinks and Medicines"

13. Methamphetamine in tablets and wrapped in foil "Speed Is a Powerful and Dangerous Stimulant"

14. Cocaine (powder) in small bags with spoon "Cocaine Can Be Dangerously Habit Forming"

15. Bottles and glasses of beer, wine, and whiskey "Alcohol Is the Most Widely Used Drug"

16. Window of a large liquor store "Successful Drug Seller's Store"

17. Examples of most barbiturates "The Barbiturates Are Strong Depressants"

18. Examples of most tranquilizers "Tranquilizers Are Used By Many Nervous People"

19. Opium and opium pipes "Opium Is an Addicting Drug"

20. Medical narcotics, vials, capsules and tablets "Narcotics Are Used Medically As Pain Killers"

21. Bottles of cough syrup "Codeine Is a Narcotic Found in Some Cough Syrups"

22. Heroin, loose and in bags "Heroin Is the Most Powerful Narcotic Known"

23. A set of "works"--home made syring, bent spoon, cotton, matches and a "tie" "Heroin and Other Narcotics Are Often Injected"

24. Tubes of glue, gasoline, and solvents "Vapors From Some Chemicals Will Damage Vital Organs"

25. Samples of many drugs "Will They Really Make You Happier?"

APPENDIX B

KEY PERSONS IN PRODUCT DEVELOPMENT AND THEIR ROLES

David Bennett--Early member of the group who helped develop the first Marijuana booklet and inspired the use of a programmed format. He left when Winchell did.

Richard Charness--Joined the group in June 1970 as the first salesman of the drug program; current Director of Field Sales.

Gary Garmon--Treasurer-Comptroller of Media Engineering Corporation, major force in establishing the corporation.

Raymond Godfrey--Collaborator with McKinney on drug research at Harvard; initiator of talks between Media Engineering Corporation and Time-Life Books, Inc.

Richard Hawkins--Major creative contributor who joined the Creative Learning Group at McKinney's request, when the rest of the staff had deserted the operation; current Vice President of the corporation.

Harry Lodge--Head of Interlink.

Laurence McKinney--Founder of Media Engineering Corporation; major creative contributor to the development of the program; current President of the corporation and Director of the Creative Learning Group.

Renato Tagiuri--Harvard Business School professor who put McKinney in touch with Interlink as a possible funding source.

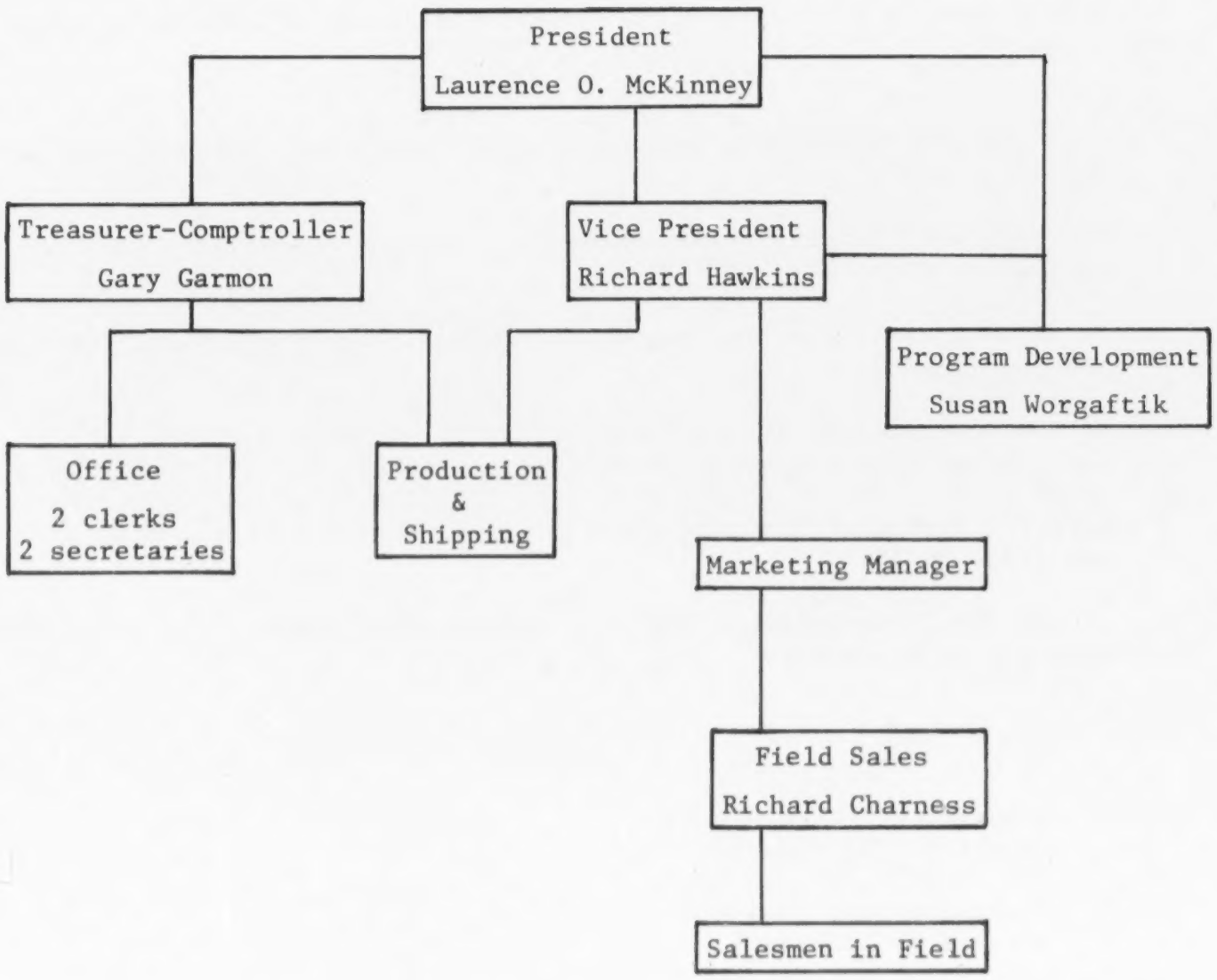
Vaughn Winchell--Early member of the group who helped develop the first Marijuana booklet. Disappointment with McKinney's methods and the share of the company allotted him compelled him to leave the company in the spring of 1970.

Susan Worgaftik--Joined the group in the fall of 1970; was the major developer of the K-6 drug program.

APPENDIX C

MEDIA ENGINEERING CORPORATION

ORGANIZATIONAL STRUCTURE



APPENDIX D

QUESTIONNAIRE

The materials you have seen today are part of a drug education program presently being developed by the Creative Learning Group. Your answers to the questions below will aid us greatly in formulating the kind of program which will be most useful to teachers of drug education.

Individual answers will be held in strict confidence. Please do not supply your name.

1. Have you ever attended a drug education course, colloquium or lecture? Yes [4] [13]

2. Have you ever taught a drug education course or spoken at a drug colloquium? Yes [0] No [17]

3. Is there presently a drug education program in your school or district? Yes [6] No [8]

4. Do you have a close friend or relative who has smoked marijuana, hashish, or have you used these drugs yourself? Yes [13] No [4]

5. Have you ever discussed marijuana and its effects with a user? Yes [12] No [5]

6. Please check the answer which most closely corresponds to your attitude toward each statement:

	Agree strongly	Agree	?	Disagree	Disagree strongly
A. Drug education should be taught in all schools.	7	6	3	-	1
B. Drugs are part of a plot hatched by America's enemies to subvert our youth.	1	-	1	2	13
C. Marijuana is harmless and should be legalized.	-	9	2	1	3
D. Drug abuse is a symptom of moral and social decay a among the young.	-	6	-	7	4
E. I feel that I understand the "hip" scene and can communicate with young people involved in it.	-	9	5	2	1

		Agree strongly	Agree	?	Disagree	Disagree strongly
F.	I know more about marijuana than before I studied this lesson.	2	7	2	3	3
G.	This lesson has changed some of my attitudes toward marijuana.	-	1	3	8	5
H.	I am more certain of my attitudes toward marijuana after studying this lesson.	1	4	3	6	2
I.	My associates would be interested in teaching a drug course.	-	4	10	1	2
J.	My reaction to the material presented was generally positive.	1	6	4	4	2
K.	My reaction to the method of presentation was generally positive.	-	8	2	6	1
L.	Drug abuse should be discussed by pupils.	6	9	2	-	-
M.	Pupils are most effectively discouraged from drug abuse by frightening them.	-	-	-	7	10
N.	I feel that the material presented would interest my pupils and be understood by them.	1	7	5	1	1
O.	I feel that the material presented would encourage pupils to use marijuana, or to continue using it.	-	3	5	7	2
P.	I feel that the material presented would help me communicate with my pupils.	-	6	4	5	2
Q.	In my opinion, the material presented was soft on marijuana.	1	-	4	10	2

Your additional comments will aid us greatly in preparation of our drug education program. Thank you for your time.

Comments ranged from:

> "Drug use is sort of political. It is anti-Spiro Agnew, anti-Vietnam, anti-operation intercept, it aligns white suburban kids with Black junkies."
>
> "I am aware that drug traffic benefits the Mafia and can be harmful, but if Billy Graham, the VFW, and the Readers Digest are all against something, I've almost got to be for it." (28-year-old teacher, marijuana smoker (occasional?) since 25)

to:

> "You don't know where it's at--give up your work."

N = 17 responding from a class of about 20 teachers, ages 20 to 50.

Worcester State Hospital
12 August 1970

QUESTIONNAIRE

We of the Creative Learning Group would appreciate your answers to the following questions. Please answer carefully, since the results of this questionnaire will be weighed heavily in evaluating the success of our drug education program for junior high schools.

1. Have you ever used any of the drugs discussed in the Creative Learning Group program? Yes [14] No [6]

2. Which ones have you used? Please list them and check the drug or drugs which were your favorites, or to which you were habituated or addicted:

3. Do you think that the drug education program which has been presented today would have influenced your decision to start taking drugs, if you had studied it before starting? Yes [6] No [9]

4. Would the program have made you more curious? Yes [12] No [5]

5. Would it have made you think twice before starting? Yes [10] No [5]

6. Qould it have prevented you from starting? Yes [2] No [8]

7. Having studied the HEROIN booklet carefully and listened to the tape of the herion addict, did you learn anything about heroin that you did not know from other sources? Yes [7] No [8]

8. Do you feel that the good and bad sides of heroin use were fairly presented? Yes [10] No [4]

9. Do you feel that the material was generally accurate? If not, where was it inaccurate or misleading? Yes [11] No [1]

   One thought the tape was misleading.

10. If you wanted to prevent your younger brother from becoming addicted to heroin, do you feel that this booklet and tape would help him understand and avoid it? Yes [9] No [4]

Please check: I am a [6] patient. (Found questions generally difficult to answer honestly.)
___ doctor (specialty? _____)

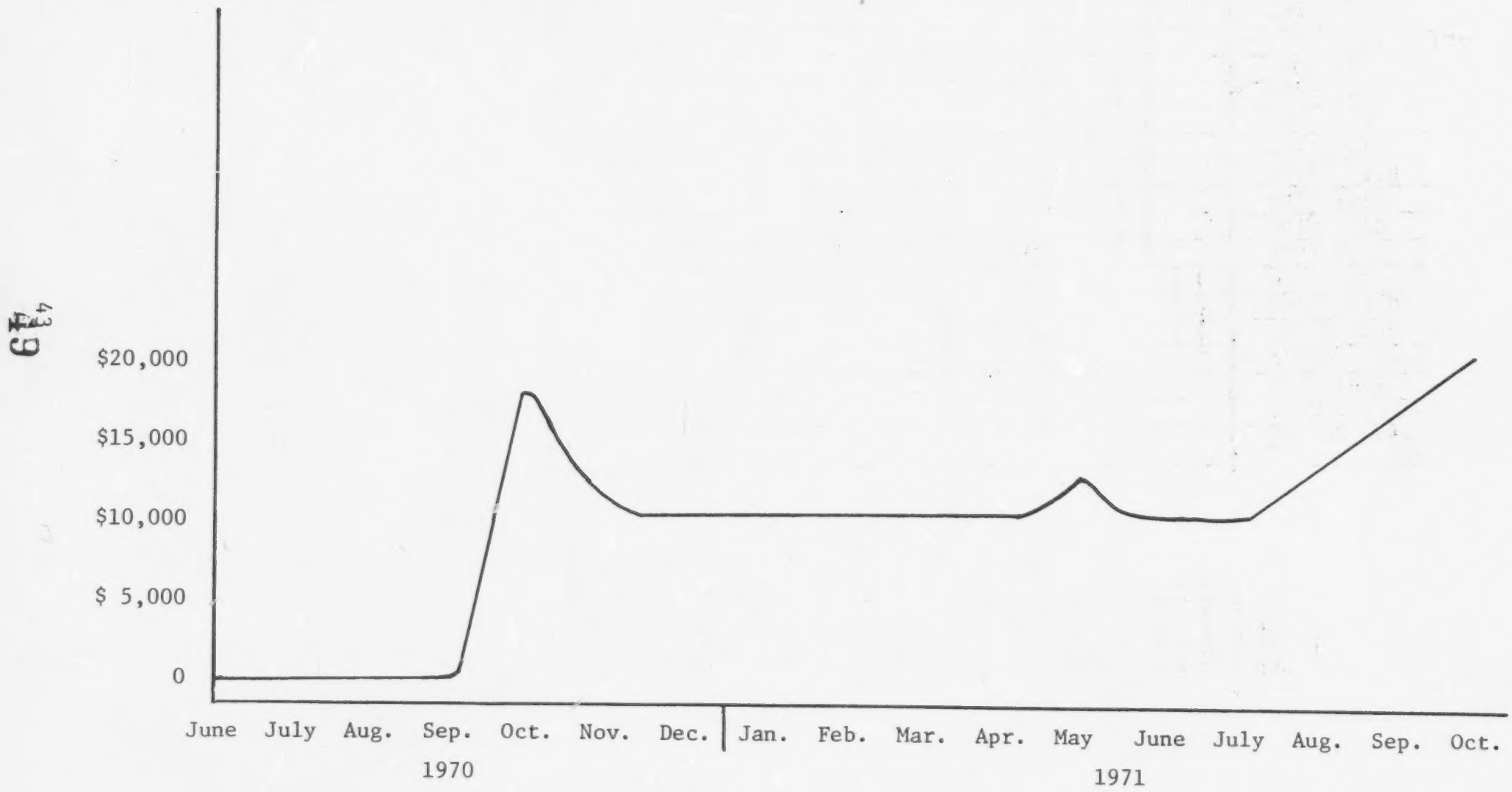
[5] nurse. (Generally positive comments.)
[1] visitor (occupation? Priest)
[7] other (6 social workers, 1 volunteer worke.
generally positive comments)

Your additional comments on the back of this sheet will be very helpful. Thank you for your time.

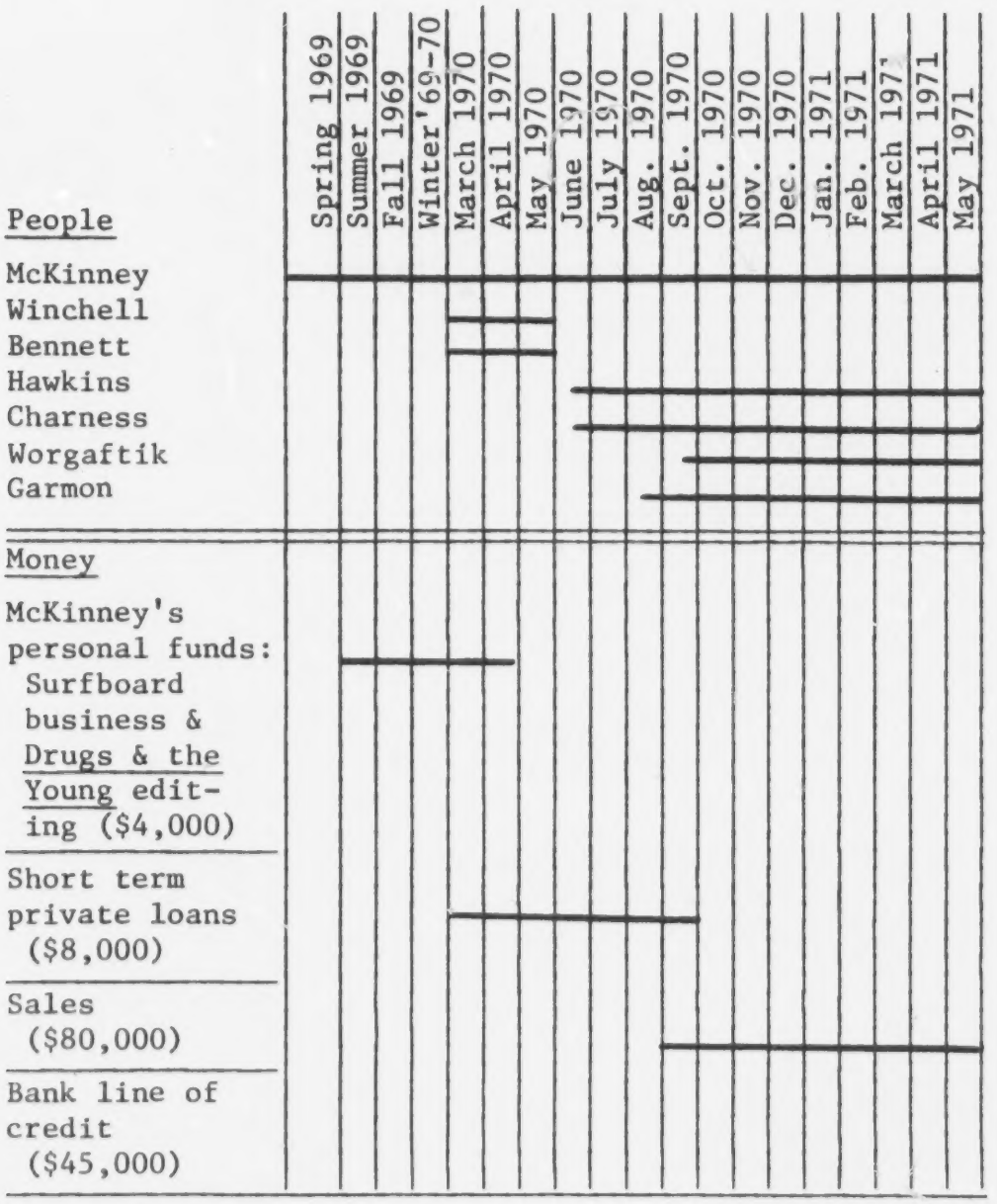
The major complaint was the hypothetical nature of the questions in this questionnaire. It would probably not be given again to a similar group.

APPENDIX E

SALES CURVE FOR JUNIOR HIGH SCHOOL PROGRAM



MEDIA ENGINEERING CORPORATION RESOURCES OVER TIME



APPENDIX F

MEDIA ENGINEERING CORPORATION

INCOME STATEMENT

January 1, 1971 to April 2, 1971

SALES		$32,082.00
*COST OF GOODS SOLD		
Opening inventory	$ 7,437.00	
Plus purchases	9,216.00	
Less closing inventory (including approval accounts)	8,297.00	8,356.00
Gross Profit on Sales		23,726.00
EXPENSES:		
Wages	16,878.00	
Commissions	3,501.00	
Research and development	3,885.00	
Advertising and promotion	3,964.00	
Telephone	2,173.00	
Rent	1,518.00	
Office supplies and expenses	2,040.00	
Postage and shipping	2,155.00	
Salesmen's expenses	4,977.00	
Professional fees	467.00	
Interest	868.00	
Miscellaneous	820.00	
Depreciation	89.00	
Total expenses		43,335.00
NET LOSS		$19,609.00

*Note: Materials sent to salesmen for their use are included in this figure. Such materials totaled $1,415.00 in this period.

APPENDIX G

LIST OF PRODUCTS AND DEVELOPERS

The following is a list of products for which Product Development Reports will be prepared.

Arithmetic Proficiency Training Program (APTP)
Developer: Science Research Associates

CLG Drug Education Program
Developer: Creative Learning Group
Cambridge, Massachusetts

Cluster Concept Program
Developer: Dr. Donald Maley and Dr. Walter Mietus
University of Maryland

Developmental Economic Education Program (DEEP)
Developer: Joint Council on Economic Education

DISTAR
Developer: Siegfried Engelmann & Associates

Facilitating Inquiry in the Classroom
Developer: Northwest Regional Educational
Laboratory

First Year Communication Skills Program
Developer: Southwest Regional Laboratory for
Educational Research & Development

Frostig Perceptual-Motor Development Program
Developer: Dr. Marianne Frostig

Hawaii English Program
Developer: Hawaii State Department of Education
and the University of Hawaii

Holt Social Studies Curriculum
Developer: Dr. Edwin Fenton
Carnegie Education Center
Carnegie-Mellon University

Individually Prescribed Instruction--Math
Developer: Learning Research and Development Center,
University of Pittsburgh

Intermediate Science Curriculum Study
Developer: Florida State University
Dr. Ernest Burkman

MATCH--Materials and Activities for Teachers and Children
Developer: The Children's Museum
Boston, Massachusetts

Project PLAN
Developer: Dr. John C. Flanagan and the
American Institutes for Research

Science: A Process Approach
Developer: American Association for the Advancement
of Science, Commission on Science Education

Science Curriculum Improvement Study
Developer: Dr. Robert Karplus, Director
University of California, Berkeley

Sesame Street
Developer: Children's Television Workshop

Sullivan Reading Program
Developer: Dr. M. L. Sullivan

Taba Social Studies Curriculum
Developer: San Francisco State College

Talking Typewriter
Developer: Omar K. Moore and Responsive
Environments Corporation

Variable Modular Scheduling
Developer: Stanford University and
Educational Coordinates